

AUTHOR: Diane Lea Ryndak; Andrea P. Morrison; Lynne Sommerstein  
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## ABSTRACT

This 7 year case study describes a young woman with moderate to severe disabilities and her use of literacy (i.e., reading, writing, listening, and speaking) during various stages of her educational career. Her use of literacy is described (a) when she was 15-years-old, after having received special education and related services in self-contained special education classes for 10 years and (b) during the proceeding 7 years, after the location in which she received services was changed to general education settings with nondisabled classmates, first in middle school, then high school, and finally in college. This change in location of services resulted in changes both in her instructional content and in the manner in which instruction and assessment occurred. Concomitantly, observable changes occurred in her social and learning behaviors. Significant changes resulted in the student's reading, writing, listening, and speaking across settings, people, content, and activities. In addition, the student's prior inappropriate social behaviors and refusals to participate in learning activities were replaced with appropriate behaviors in both instructional and social situations. Finally, the implications of the findings from this case study are discussed and recommendations are made for providing effective educational programs for students with moderate to severe disabilities, including literacy development.

DESCRIPTORS: disabilities, literacy, special education, social and learning behaviors

Traditionally, literacy has been viewed as an individual's ability to read and write. To assist students in developing reading and writing skills, schools predominantly adopted a reading readiness approach, contending that a learner needs to reach a certain level of mental, physical, and emotional maturity before profiting from reading instruction. This approach supports the concept of a hierarchy of reading skills, including pre-requisite skills (e.g., auditory and visual discrimination; memory), and the belief that the skills in that hierarchy should be taught directly, in sequence, and in isolation (Ryndak & Weidler, 1996; Teale & Sulzby, 1986). Teaching reading and writing through this hierarchy of skills has resulted in the identification of instructional content for students with disabilities based on each student's developmental level in the readiness sequence (Teale & Sulzby, 1986; Watson, Layton, Pierce, & Abraham, 1994).

Consistent with this approach, literacy development usually has been measured with standardized tests. Hartle-Schutte (1993) argued that such tests have been unsuccessful at capturing opportunities for literacy use in the lives of students from minority populations or in determining whether they are using literacy successfully in daily events. In fact, standardized tests have been ineffective in documenting the actual literacy achievements of any student who can be described as being outside the mainstream population (Hartle-Schutte, 1993), including students with disabilities.

When considering the literacy development of students with moderate to severe disabilities, additional issues arise. Although the challenge that students with disabilities encounter in developing and demonstrating literacy skills in part may be related directly to their impairments, this difficulty also might be the result of how parents and professionals respond to those impairments (Light & McNaughton, 1993) and the contexts in which learning is expected to occur (Koppenhaver & Yoder, 1993). The readiness approach to literacy development only serves to highlight students' disabilities and emphasize differences in each student's performance from that of the mainstream population.

Views of literacy have changed, however, to encompass the use of reading, writing, listening, and speaking in an individual's everyday life (Teale & Sulzby, 1986). These four components of literacy interrelate and develop both simultaneously and interactively (Koppenhaver, Pierce, Steelman, & Yoder, 1995; Ryndak & Weidler, 1996). When reflected in instruction, these components can be taught interactively, allowing a student's literacy to develop through genuine and meaningful opportunities to

speak, listen, read, and write (Koppenhaver et al. 1995; McLane & McNamee, 1990; Notari-Syverson, O'Connor, & Vadasy, 1996; Snow, 1983).

Recent research suggests that this approach to literacy development is appropriate for identifying instructional content, instructional practice, and assessment strategies (Katims, 1991; Teale & Sulzby, 1986). When adopting this conceptual approach to literacy development, instruction focuses on students as active participants in learning and emphasizes the effectiveness of a student's use of language (i.e., the ability to inform or persuade). Instruction in one component of literacy becomes integrated with instruction in the other areas, because the goals of speaking, listening, reading, and writing overlap. Within this conceptual approach to literacy development, effective instruction and assessment occur during the routine daily activities that involve the four components of literacy (Notari-Syverson et al., 1996; Ryndak & Weidler, 1996; Teale, 1986; Teale & Sulzby, 1986; van Kleeck, 1990).

Many researchers have observed in the homes and communities of students from outside the mainstream population the use of literacy practices that are consistent with effective instruction (Heath, 1983; Scollon & Scollon, 1981; Taylor, 1983; Taylor & Dorsey-Gaines, 1988). However, many of these literacy and literacy developing behaviors are "unrecognized, undervalued, and untapped by mainstream schooling" (Voss, 1993, p. 633). For example, bi-literacy researchers indicate that a learner acquires literacy skills more quickly when instructional content correlates with the written and spoken language that is required in the learner's real life. In fact, when a learner is given opportunities to identify situations in which s/he perceives it is most important to have literacy skills, and instructional content is developed to reflect those situations, literacy gains are greater (Wallace, 1988). It could be interpreted that the learner is more motivated to develop literacy skills when they are associated with high interest or need provoking activities in real life. McCormick (1994) discussed such motivational factors as internal variables that can positively affect literacy development and help avoid or minimize recurring failure. Early success is essential because recurring failure results in the development of avoidance behaviors, with students demonstrating an "unwillingness to persevere when tasks are challenging, or even to attempt reading activity at all" (McCormick, p. 160).

Literacy development is essential for individuals with disabilities since it allows them to improve and maintain interpersonal interactions, convey needs and wants, exchange information, and express their feelings and ideas (Dziwulski, 1994; Light & Kelford Smith, 1993; Yoder & Koppenhaver, 1993). Research on the development of literacy by learners with moderate to severe disabilities is limited. As learners increasingly are being served in inclusive settings, however, more focus is being placed on such research (Kliwer, 1998; Koppenhaver, Evans, & Yoder, 1991; Mirenda, 1993; Ryndak, Downing, Jacqueline, & Morrison, 1995).

This 7 year case study describes Melinda, a young woman with moderate to severe disabilities, during various stages of her educational career. Melinda first is described when she was 15-years-old, after having received educational services in self-contained special education classes for 10 years. She then is described periodically across the next 7 years after she began to receive services in general education settings with nondisabled classmates. This change in location of services resulted in concomitant changes in both her instructional content and the manner in which instruction and assessment occurred. Although many differences were documented relating to Melinda's performance, differences in her use of literacy consistently emerged. This study focuses only on Melinda's literacy before and after being included with nondisabled peers.

## STUDENT AND BACKGROUND

Melinda was the only daughter in a middle class Caucasian family of four--her father, mother, and a brother who was 2-years-older than she. Both of her parents were well educated and extremely knowledgeable about advocacy issues and practices. They believed Melinda should have the same life she would have had if she did not have a disability and they used her older brother's life as a guide. As a result, Melinda participated in numerous community experiences (e.g., soccer, girl scouts) with nondisabled peers. Her immediate family was part of an extended family composed of a grandmother,

aunts, uncles, cousins, and many family friends. Although a few extended family members lived out of state, most lived within 10 miles of Melinda's home in New York state. These variables resulted in many opportunities for the use of literacy related skills (e.g., reading, writing, speaking, and listening) within a rich environment.

Melinda's parents were very aware of the importance of her appearing and acting in ways that were consistent with same-age peers and, therefore, focused heavily on her appearance. Although struggling to maintain her weight and of small stature, she consistently was well groomed and attired like nondisabled peers. In addition, Melinda was well traveled and had many experiences within her community, in the country, and in foreign lands. As a result, Melinda physically projected a middle-class sophistication and worldliness that was inconsistent with her language, academic progress, and behaviors.

At the age of 15 years, Melinda had been receiving special education services in self-contained classes since the age of 5 years, after attending regular preschool and private speech therapy since the age of 2. As this study began, Melinda was described as enthusiastic, friendly, outgoing, self-confident, and independent by nature. She enjoyed having responsibility and preferred to work independently on tasks with high expectations, although she required proper role models and adaptations to do so. Melinda generally was at her best when with many people, trying hard to fit in and please others.

Over the years she had been labeled with a number of different handicapping conditions and learning problems, either singly or in combination (e.g., severe learning problems, mental retardation, neurologic impairment, multiple handicaps). None of these labels, however, accurately reflected Melinda's learning characteristics and functioning levels. It should be noted that after Melinda turned 10-years-old, her parents did not allow an IQ test score to appear in her records because they had come to believe the scores did not reflect her potential. Across sources of information, therefore, discussion of any cognitive disability after that time was in the form of comments about her performance on academic and other norm referenced tests. Records indicated that she exhibited generalized hypotonia, poor balance, visual motor integration in the 5-6 year old range, and sensory integration skills at the 5 year 7 month level. The combination of these characteristics resulted in difficulties in motor planning and visual perception, as well as fatigue during activities that required strength or endurance from either fine or gross motor muscles (e.g., writing, physical exercise). In addition, Melinda's speech and language problems kept her from communicating effectively about all but the most concrete and immediate topics. In spite of these difficulties, Melinda took every opportunity to participate with extended family members, friends, and nondisabled peers across environments.

Melinda's social skills were a relative strength. However, she had a history of specific inappropriate social behaviors during interactions with others during times of intense and ongoing stress. She also caused significant physical damage to her fingers by tearing off skin. When this occurred, Melinda's parents would try to determine the cause of her ongoing stress. As this qualitative study began, all of these behaviors were occurring. In addition to these stress-produced behaviors, Melinda's parents voiced concerns about her education program, the program's apparent impact on their daughter's behavior, and her lack of academic progress at school. Specifically, Melinda's mother was distressed about newly acquired inappropriate behaviors at school (e.g., refusing to work, speaking loudly across the self-contained class throughout class activities) and inappropriate instructional materials used in the program:

We had become very concerned that this [program] was outrageously inappropriate for her. Her behavior was deteriorating. She was becoming a discipline problem, when she had never been one. She was becoming really obnoxious in class--talking and giggling loudly, being very inappropriate.

I was mostly concerned about the papers she was bringing home. [While] the year before she was being given papers [without modifications] that were really too hard for her, now she was getting papers that were absurd[ly simple] and still getting things wrong on them! I couldn't figure it out. I knew she could do the work. I think the age inappropriateness of the materials was the thing [about the program] that alarmed

me the most....These papers reflected early elementary content [and illustrations], and were just intolerable.

Because of Melinda's new disciplinary problems in the self-contained class and lack of progress, her mother had:

...given up on academics. I really felt "What difference does it make how many facts she knows? She can't talk to anybody. I don't really [care] about the facts anymore--let's just get her talking and let's get her acting appropriately and not kicking people, just so she can hold down a job."

The combination of these concerns led Melinda's parents to ponder the outcomes they desired from her educational experiences and to request an external evaluation of her services and progress.

## METHOD

### INFORMATION GATHERING

In response to their request for an external evaluation, qualitative and quantitative information about Melinda's instructional settings, instructional content, manner of instruction, and performance was gathered by the first author in numerous ways. The same author also collected information periodically throughout the remainder of Melinda's educational career. All information gathering activities, therefore, were completed by the first author.

**Immediate activities.** Melinda was observed several days across all her school settings, at home with her family, and in the community, with detailed field notes taken. Reviews were completed of Melinda's educational records for the last 2 years, including both test scores and narrative reports, as well as records of meetings and conversations with school personnel that had been compiled by Melinda's parents. Formal interviews were conducted individually with each of Melinda's current service providers, their supervisors, the building principal, and the district director of special education, during which notes were taken. These interviews ranged in duration from 20 to 60 minutes. Conversations with Melinda and her parents occurred almost daily over a 4 month period and formal individual interviews of 60-120 minutes were conducted with each of Melinda's parents. These interviews were audiotaped and transcribed. Notes were taken at two formal meetings with the district level multidisciplinary team responsible for Melinda's educational placement and program. Finally, samples of Melinda's work across content areas were collected.

**Due process and placement activities.** Once gathered and discussed, this information led Melinda's parents to request a due process hearing in an attempt to begin substantive changes in her instructional content, strategies used to teach that content, and location of services so as to allow more extensive integration with nondisabled peers. During negotiation discussions on a Friday morning, just before beginning the hearing, the district agreed to place Melinda in seventh grade classes in her home school on a "trial basis" for the 1 month remaining of the school year. Thus, on the following Monday, Melinda joined existing seventh grade classes, although her occupational and speech therapies continued to be provided in one to one pull-out sessions. Two forms of support were provided for her during that month; she attended reading and math remedial labs with nondisabled students and she received one to one support from a different special educator one period a day. It should be noted that since this change happened over a weekend, school personnel neither (a) had time to prepare for Melinda's inclusion; (b) had received any training on inclusion or teaching students with moderate to severe disabilities; nor (c) were provided common planning times to plan and coordinate Melinda's instruction.

**Follow-up activities.** After Melinda started to receive services in seventh grade general education classes with nondisabled peers, her parents requested that the first author remain involved and document (a) her performance and possible progress in the inclusive setting and (b) personnel training activities and instructional strategies that could improve the support provided for her and maximize her learning. All of

the strategies initially used to gather information were continued by the first author, except for interviewing the supervisors of her service providers and the district director of special education. Because of Melinda's success on modified seventh grade work and the improvement of her newly developed inappropriate behaviors, the district agreed to continue her inclusion in 8th grade with the same set of students. This continued until Melinda became 21-years-old.

Throughout this time, at the parents' request, observations across inclusive school settings, community sites, and meetings with current service providers occurred annually for 6 years. Conversations with Melinda, her family, and/or extended family members occurred approximately every 2 weeks for 6 years. During the last year of this study, the first author interacted with Melinda only (a) at home when she returned from an out of state college program in which she was included across college experiences and (b) at conferences attended by both Melinda and the first author. Throughout the study, work samples were collected approximately three times per year.

In addition to previously used information gathering activities, two new strategies were used. First, formal interviews were conducted with Melinda's older brother, addressing information from both before and after inclusion. As with Melinda's parents, these interviews were audiotaped and transcribed. Second, Melinda was observed and videotaped while making public presentations.

## INFORMATION ANALYSIS

Member checks of formal interview content were completed by the interviewees reading and editing transcripts to ensure accuracy of information. All field notes from observations, notes from interviews with school personnel, transcripts of interviews with family members, notes from meetings and conversations, copies of school and family records, and work samples were organized by year.

The first author then invited the second author to assist in information analysis. Consistent with qualitative research methodology (Hammersley & Atkinson, 1995; Kvale, 1996; Patton, 1987; Taylor & Bogdan, 1984), the first two authors read the collected material many times, making notes about recurring themes. After comparing and discussing these recurring themes, an initial set of content codes was developed. The first two authors independently reread the written material and discussed any changes required in the coding system to reflect most accurately the recurring themes. A refined coding system emerged, including themes related to each of the following, both before and after inclusion: (a) instructional settings, content, and strategies; (b) assessment strategies; (c) Melinda's behaviors; and (d) Melinda's performance in reading, writing, listening, and speaking. The first two authors again reread the material and independently coded it. The two sets of coded content were compared and any discrepancies were discussed until both researchers agreed on codes used per section. Content per theme then was grouped by year and triangulated across information sources by the first two authors (Hammersley & Atkinson, 1995; Kvale, 1996; Patton, 1987; Taylor & Bogdan, 1984). Findings evident across at least three sources of information were noted.

In addition to this content analysis, a literacy development researcher completed a formal miscue analysis on Melinda's reading of material during a presentation at a national conference. An independent member check of the summarized data also was completed by Melinda's parents to identify any discrepancies or inaccuracies. Only Melinda's parents were included in this member check because of their consistent involvement in her education program across all 7 years. Finally, to ensure an accurate depiction of contexts across the years was presented, Melinda's mother was invited to review and edit the final written study, thus becoming a third author. It must be emphasized, however, that the third author did not participate in either information gathering, analysis, or summary writing beyond her initial parental role.

## FINDINGS

### BEFORE INCLUSION

Within themes, ideas that consistently appeared in the gathered information were summarized for the time before and after Melinda's inclusion. For each of these time periods, findings are summarized below for settings and services, oral forms of literacy, written forms of literacy, and behaviors related to literacy development.

**Settings and services.** At age 15, Melinda was receiving services in her home middle school within a self-contained special education class comprising 12 students. The class was staffed by a special education teacher and two paraprofessionals, one full time and one part time. Described as the lowest functioning student in the class, Melinda's instruction focused on basic reading, writing, and math, following developmental sequences and measured through normed achievement tests. Melinda was integrated with nondisabled students for one period a day in either sixth grade girls' chorus or physical education. Her self-contained class ate lunch in the cafeteria at the same time as nondisabled students, but the entire class sat together, in essence isolated from the students without disabilities.

Melinda also received one to one speech and occupational therapy outside of the self-contained class. During speech sessions, Melinda received therapy for articulation, vocabulary expansion, and appropriate social interaction. During occupational therapy sessions, Melinda received training to assist with her poor balance and problems with visual motor skills, motor planning, and visual perception.

Although a set of service providers had been identified for Melinda, no real teaming efforts were evident in her services. Team meetings were not held; collaborative planning of instructional activities did not occur; instruction on content across settings, instructors, or activities did not occur; consistent descriptions of and explanations for Melinda's newly acquired inappropriate behaviors were not expressed; and integration of related services into Melinda's activities across the day did not occur. For example, one occupational therapy session occurred in a large closet adjacent to the stage in the school auditorium. During this session, Melinda walked backwards, forwards, and sideways on a 5 ft piece of masking tape on the floor, as if it were a balance beam. A real balance beam was not used because "Melinda was afraid of it." On each trip, she carried one 3 × 5 index card naming a part of a friendly letter. For each part of a letter labeled on a poster board at the end of the tape, Melinda matched the words on her cards. The occupational therapist described the intent of this activity as assisting Melinda with balance, visual motor skills, motor planning, and visual perception. When discussing this session and other related services, Melinda's mother stated:

They don't know how to connect it [i.e., therapy] with the curriculum. They're still hung up on doing isolated skill reinforcement without connecting it to what [the students] are doing.

When describing Melinda's overall experiences in self-contained classes, her mother stated:

I watched the differences between her and her [nondisabled peers] grow and, while a lot of those [differences] were due to the disability, there were a lot [due to] weird stuff. Her life didn't have opportunity. There was no sense of optimism, no possibility that she could have something like a career or that she could have experiences similar to [other] kids.

**Oral forms of literacy.** At age 15, Melinda had a receptive vocabulary of 6 years 10 months, but an oral vocabulary of 3 years 5 months. Her speech was unintelligible to unfamiliar adults and nondisabled peers, even after several repetitions. Records indicated that "few people (e.g., family members, peers in neighborhood) could understand Melinda's verbalizations, though her vocabulary was extensive enough for her to participate in lengthy conversations." Once Melinda determined that an individual was unable to understand her speech, she responded by not verbally communicating with that person. Rather, she either found alternate ways of communicating when it was absolutely necessary (e.g., have a friend translate, use gestures); responded with contrived phrases to extricate herself from further interactions (e.g., "no" or "don't know"); or removed herself physically. As stated by Melinda's father:

If she needed help at home she wouldn't say anything. Her speech wasn't good enough to say anything. She didn't know how to respond and she'd like, go into a clam. She'd isolate herself if there was a problem, and if you asked her, "Do you have a problem? What is it?" she'd go into her bedroom. She wouldn't say anything.

In spite of her communication difficulties, however, Melinda frequently interacted with nondisabled peers outside of school, although with very immature social skills.

The objectives on her individualized education program (IEP) included adding appropriate comments to conversations with adults and peers (Table 1). Melinda's education program, however, provided limited opportunities for her to develop the skills required to hold a conversation with nondisabled peers, since ostensibly their only opportunity to interact occurred during chorus and physical education, and she received no supplementary support during these classes.

Melinda frequently spoke loudly and at inappropriate times in the self-contained classroom. Outside that room, she spoke only in response to direct questions and only with one-two word answers (e.g., "yes," "no," or "don't know"). During her integrated classes, Melinda attended to the teachers and silently followed directions to the best of her ability. For instance, during chorus, Melinda participated with her peers in warm-up exercises, imitated her neighbor to open the correct sheet of music, and sang. If she did not know a song, she "faked it" by moving her mouth while not producing sound. To assist Melinda, the music teacher audiotaped songs presented to the class, which Melinda independently used to memorize the songs as homework. When asked a question to which she knew the response, Melinda frequently did not answer, though discrepant explanations were evident for this. Most school personnel believed this demonstrated a refusal to respond, whereas Melinda's family considered her unable to respond. Describing this phenomenon as a difficulty with word retrieval or auditory processing, family records of correspondence with service providers indicated:

She understands everything you say, but sometimes can't find the words or confidence to express herself. ...Speech/language problems make it difficult for her to find words and put them in the proper order....Speech problems make it difficult for her to express events or feelings. Probing questions may cause frustration or withdrawal. If she won't answer your questions about a problem, wait until she's more relaxed and ask quietly. She also may make inappropriate comments at times. That's just her typical attempt at being part of the group when she doesn't have the proper language at hand.

Consistent with these family perceptions, the school psychologist indicated that when true/false questions were posed, Melinda:

occasionally responded in unexpected ways. ...that appeared to be inaccurate. This may be an additional indication of difficulty with processing orally presented information. [On a test,] Melinda needed to point to a picture in response to a stated vocabulary word. These results suggest that her receptive language skills fell at a 6 year 7 month level [note: speech records indicated a 6 year 10 month level]. However, it should also be noted that at times Melinda chose answers rapidly, without obviously looking over all four choices, thus minimizing this score as an optimal measure of receptive comprehension. . . . Short term memory was found to be very weak.....visitations, observations, ability to see relationships is better than her detail memory for what she hears or reads... Melinda was very hesitant to respond to many tasks requiring verbal responses. She frequently responded by saying, "Don't know." For example, she did not give a definition for the words umbrella or hat. It is assumed, [however,] that these words are in her vocabulary.

Written forms of literacy. For several years, Melinda's test scores indicated a reading comprehension level of second grade four months. The school psychologist indicated that Melinda was "at frustration level in [all] academic areas." According to Melinda's father:

the [self-contained special education program] was like a self-fulfilling prophecy. They'd tell us, "Her IQ is this low and she'll never learn to read above the second grade level." So they wouldn't teach her anything--wouldn't give her opportunities to learn anything.

Melinda's mother indicated:

even if you looked at the worst of her test [scores], she wasn't even meeting those expectations. She simply never progressed. ...I saw the same red plained phonics book come home four years in a row. They were all only half used, starting on page one every year. ...Reading was a misery, an absolute misery. They started her in DISTAR, and she would hit unit 75, which was the wall for her. Then they'd push her back to 50. They'd just keep trying the same reading program over and over again until she learned to try to escape from reading.

Records indicated that with DISTAR, Melinda returned from lesson 75 to lesson 50 three consecutive years. Across years, Melinda continued to score at the second grade 4 month level on standardized reading tests and to be given age-inappropriate material to read. Eventually, she developed an aversion to reading:

...School was a misery for her. Anything that had to do with reading was traumatic. A book was the most threatening thing to her, and this was in a family [that was literacy rich]. Everybody read--and she didn't.

Field notes stated:

...To extricate herself from adults' requests for her to read, or situations in which reading was required, Melinda consistently resorted to a repertoire of coping behaviors (e.g., redirecting attention away from the need to read or delegating the reading to somebody else). This especially occurred when Melinda was in a 1:1 instructional setting, a testing situation, or whenever she was put on the spot and it appeared she expected to perform poorly....[For example,] while with a group in a local restaurant Melinda was asked to check the menu to determine if a common food item was served. Her immediate response was: "We don't need to. Just tell them what you want and they'll get it." She proceeded to place the menus on the side, negating all need for anybody to read.

Melinda used similar coping behaviors when integrated. In chorus, Melinda would look at her music sheets as the chorus sang and surreptitiously look at her nondisabled classmates not only to determine which sheet of music she needed next, but also to determine when to turn the page.

In relation to writing activities, Melinda's records indicated that beyond copying, she was "unable to write a sentence and, therefore, would never be able to write paragraphs." According to her mother, Melinda had "almost no writing or written language skills. She could maybe write a couple of items down for a shopping list, but couldn't write you even a one sentence letter." Her writing tasks were inappropriate for both her age and her needs. For example, work samples included many teacher-made worksheets on which Melinda was required to fill in missing letters of the alphabet or to complete isolated addition problems accompanied by pictures for early elementary students (Figures 1 and 2). As described by her mother:



When these papers came home it didn't make sense to us. At least give her something to write that makes sense so that she can use the concepts to get the idea, rather than just giving her nonsense words. ...When they were teaching her the letter B they just gave her a bunch of words that began with B so she could practice writing the letter B--but the words didn't make sense together, so if you said them out loud you would be challenging her auditory processing and language difficulties. It was hard even for ME to say! ...[On worksheets] her handwriting regressed. It started looking like chicken scratch.

Over the years before inclusion, there was a marked regression in Melinda's use of written forms of literacy.

Behavior. In addition to her behaviors in response to ongoing stressful situations (e.g., peeling the skin on her fingers), Melinda demonstrated three other types of behaviors relevant to this study. First, she consistently exhibited dramatically different behaviors when in the self-contained classroom than when in general education settings with nondisabled peers. For example, when in the self-contained classroom, Melinda consistently was off task and refused to do assigned independent seat work; when in general education settings, Melinda consistently was on task and attempted everything her nondisabled peers did.

Second, when asked to do any academic task, especially tasks that required reading or writing, Melinda consistently either demonstrated coping strategies that negated any need for her to complete the task or she responded with strongly inappropriate behaviors (e.g., yelling, moving materials away from her, physically removing herself from the situation). Melinda's mother indicated that:

...the biggest barrier to Melinda's learning was that she would not accept help [from us]. ...She would never ever work with anybody in the family, even though we were dying [to help her learn. She] was resistive to the point of totally obnoxious noncompliance, degenerating to screaming. It was simply impossible to get her to do it.

Third, periodically Melinda "fell apart" in one of two ways--either she would yell at people and refuse to cooperate in any way or she would totally stop interacting and "shut down." When Melinda's behaviors escalated to this point, the episode unpredictably would last between 10 minutes and 2 hours.

## AFTER INCLUSION

After being included for 7 years in middle school, high school, and college, Melinda exhibited the same delays in physical development, but no longer fatigued easily, in spite of a daily schedule of activities from early morning through the evening. The following sections describe the inclusive settings in which she received supplemental support, the services she received, and the progress she demonstrated in literacy use.

Settings and services. Following the 1 month of inclusion in seventh grade classes, Melinda received support services during general education activities with nondisabled peers for 1 year in her home middle school and for 4 years in her home high school, although opposition to Melinda's "parent driven" inclusion remained a generic problem in the schools and district. The district provided sporadic training for teachers. Support and adaptations for Melinda often were implemented very late in the first semester of each year. When implemented, they were often were inappropriate and inconsistent. Although individual general educators showed remarkable willingness and ability to meet Melinda's needs, a team approach was seldom utilized. Melinda followed a typical age-appropriate schedule, although considerations were given to her interests and teachers' styles. She participated in the same activities as her nondisabled classmates, with modified expectations based on her needs. Speech therapy continued daily on a pull-out basis, but at Melinda's request with nondisabled peers. She attended a pull-out resource room one period per day and received instruction on community travel and work starting her junior year in high school.

At the age of 20, Melinda received a high school IEP diploma at commencement as her classmates for the last 5 years graduated. By that time, Melinda's parents, district personnel, and personnel from a private

out of state college had developed a program that allowed her to receive special education support as an included college student. That fall she left for college, as did her former classmates. For 2 years, Melinda lived in a dormitory with support. She had appropriate supplemental supports and services in audited college classes that allowed her to meet her IEP goals. Her IEP goals included age appropriate behavior, active participation in college activities and experiences, language development, independent living skills, vocational training, functional academics, and accessing the community.

In addition to the change from self-contained classes to inclusive general education classes, as school personnel developed skills related to serving students with more significant disabilities in inclusive settings, concomitant changes slowly occurred in both the focus of Melinda's educational program and the manner in which instruction was provided and assessment conducted. For instance, the focus of her IEP goals shifted from being skill oriented to emphasizing the use of acquired and new skills during activities and in settings that were meaningful to her (Table 2). The instructional focus became a combination of the general education content that was most relevant to Melinda and content to meet her functional needs (Ryndak, 1996). These goals then drove her instruction and the manner in which it was provided.

Although services were provided differently by various teams across Melinda's middle school, high school, and college inclusive experiences, some core elements were slowly developed over the years. First, an education team, including school personnel and members of Melinda's natural support network, was formed per year. Her education teams learned to hold regularly scheduled meetings to collaboratively plan instructional content (i.e., both functional needs and general education content), develop modifications to facilitate Melinda's learning and independence, implement instruction, and evaluate her progress. Second, the special education teacher's role changed to that of a consulting teacher who provided both direct services within general education activities and limited community based instruction and indirect services by supporting the general education teachers. Third, instruction on functional needs and related services goals increasingly was integrated into general education activities and daily routines. Fourth, as team members, Melinda's parents were very active in identifying effective strategies and developing modifications that were consistent with their knowledge of how Melinda learned best. Fifth, modifications were developed systematically to maximize Melinda's use of current skills, maximize her opportunities to learn new skills, maximize her independence, and minimize her failures.

Modifications first were made to general education activities and materials, allowing Melinda to maximally participate in high interest activities while working toward her own annual goals. Participation in general education activities resulted in realistic yet higher performance expectations. For instance, in biology class, Melinda was a member of a cooperative learning group. Her instructional goals for the biology unit included speaking so all others could understand her, partially participating in the dissection of a frog, and learning the basic vocabulary related to the unit. School personnel indicated that Melinda gave accurate and technically detailed verbal directions (including unit words like muscle and tendon) to group members as they completed the fine motor tasks involved in the dissection. Melinda later took a modified unit test, along with her nondisabled classmates.

As Melinda developed independence in functional activities and acquired the newly accessed general education content identified on her IEP, expectations for her performance continued to rise. In addition to general education content, instruction was provided on functional content either by (a) infusing instruction into general education activities with nondisabled peers, (b) modifying homework and/or class assignments, or (c) conducting necessary school or community based instruction at limited and least intrusive times of the school day and week. Overall, each general education activity became an opportunity for Melinda's education team to focus her instruction on some aspect of the general education content being addressed and/or a functional need that was evident during the activity.

Changes in instructional strategies also occurred in relation to Melinda's related services needs. For example, during her high school experiences, it was determined that Melinda's speech impairment partially was due to an inability to hear and reproduce all the syllables in some words. Her speech therapy then shifted from centering on articulation and vocabulary building to focusing on syllables and practicing words that were particularly problematic for her during high interest activities. For one general education

science unit, Melinda could not differentiate the syllables in the word "iron," but learned to pronounce the word correctly during science class by blending together the words "I" and "earn." According to Melinda's mother:

[the high school speech therapist] did a fine job of connecting the [general education] curriculum with Melinda's language needs and vice versa--meeting Melinda's language needs in the context of the curriculum. ...Melinda finally had exposure to curriculum, instead of just skill development in isolation. She got to have content with nondisabled students, which was a gift from the gods for her. She showed a dramatic increase right away. ...The progress that she made was exceeding all of the most positive predictions! She began growing, when she had been stagnating in the special [education] class.

Finally, changes occurred in the manner in which Melinda's performance was assessed. Instead of relying on norm referenced assessment scores, Melinda's education team used alternative assessment strategies, including her performance (a) during instruction; (b) during naturally occurring opportunities to use acquired or new skills and knowledge in school, at home, and in the community; (c) on modified class assignments, tests, and homework; and (d) on modified norm referenced assessments.

When describing Melinda's overall experiences in inclusive settings, her mother stated:

Inclusion allowed her to have the same experiences [as nondisabled peers]. The number and breadth of experiences that she has had since she was included simply never would have taken place [if she had remained in self-contained classes]. When we let her out, she had contact with nondisabled students and higher expectations [were placed on her]. Her sense of the world became more broad and [she became] more confident, just because she was doing what everybody else did.

Oral forms of literacy. After being included, Melinda demonstrated tremendous growth in articulation and vocabulary. Melinda's mother described how:

...she was surprising us with things she remembered that we didn't expect her to remember, or things she understood that we didn't expect her to understand. There was something about American History [that came up] at the dinner table, where something that she had learned [in class] just popped out [during a relevant conversation]! We all looked at each other and were very surprised.

While practicing to read her testimony about her state's implementation of the least restrictive environment component of Public Law 94-142 (now the Individuals with Disabilities Education Act of 1997) for the Education Committee of the State Assembly, Melinda was not able to differentiate the syllables of the word "economics." She could say it correctly, however, if she first said the word "echo" and then added "nomics." During her actual testimony, Melinda read her statement smoothly up to the word "economics" (see Figure 4). At that point she paused, said "echo" and "nomics," then paused again as she smiled at her mother, before she read the remainder of her testimony.

As her speech became more intelligible to classmates and adults, Melinda developed an ability to join and remain in situations she previously had avoided. At home, Melinda demonstrated a greater willingness to stay and speak with extended family members when they were together. For instance, before being included, Melinda would slip away after holiday meals and watch television alone. By her senior year in high school (i.e., 4.5 years after being included), she was staying at the dinner table and joining in conversations.

In the latter part of her high school experience, it was determined that Melinda had a 7-10 sec auditory processing delay. Her education team determined that Melinda's immediate argumentative responses to directions occurred before she could process their content. To accommodate for her processing delay, Melinda's education team developed an instructional strategy that they referred to as "hit and run." Her mother described it as "telling her what you want her to do and then running away before she can resist."

The instructor then returned after a few minutes to determine whether Melinda was following the directions. Invariably she was. This strategy allowed Melinda the time she required to process what she had heard before responding. When describing the use of this approach at home, Melinda's father stated:

We used to yell and scream at her, [but] whatever you gave her she gave you right back. She wouldn't do [what you had requested]. Now if you want her to do something, you just tell her "I expect you to do this in five minutes." Then you wait. Generally, she'll come around [and do it].

Melinda also developed behaviors that demonstrated a heightened awareness of her nondisabled peers and their reactions to her. For instance, Melinda participated in disabilities awareness sessions in each of her high school classes. During these sessions, she helped explain her disability, the things with which she had difficulty, and the most effective manner in which to respond to her when she fell apart (i.e., when she was angry or frustrated and unable to cope). Through these continued discussions and observations of her classmates' responses to her falling apart, Melinda became aware of her inappropriate behaviors in difficult situations and learned to identify when she was falling apart before exhibiting those inappropriate behaviors. Once she had the ability to identify these situations, Melinda began to tell people when she was falling apart and requested that they "give me a minute." Melinda's mother stated:

...[School personnel] always used to say, "At the high school level [students with disabilities] begin to plateau and we can start withdrawing related service." [Well, after being included], her language skills just started to blossom. They started coming on in sophomore year [of high school, her third year included,] and her speech has shot up dramatically in the last two years [of services at college]--so dramatically it's mind boggling how much [her] speech continues to grow, and grows faster and faster! It's like a rolling stone and keeps picking up speed. Even last September [during her second year in college] she was not able to say what was going on with her. She would still shut down when things became overwhelming to her. Now she's beginning to express [herself], to say "This is hard for me" or "I'm confused" or "I'm very angry. Please leave me alone." [This] is a big step for her!

Toward the end of her high school experiences, Melinda started to put together complex thoughts and memories and to pull together the language to express them, even when asked questions spontaneously. Her mother described a situation in which Melinda was on a panel at a local conference on inclusion when the moderator asked her:

..."What was the difference between the special class and the regular class?" [Melinda] said, "When I was in a special class I used to put my head down on the desk. I used to look out the door and watch the kids go by, and now they're my friends." ...I also asked her, "How did you feel when you were in the special [education] class?" She said, "I was very angry and frustrated. ...I didn't like that place. It felt like a prison to me."

Written forms of literacy. When describing Melinda's educational program and progress after inclusion, her mother described teachers' efforts to adapt reading materials and lectures. She stated:

Melinda took health in which she took the regular tests--[the education team] just circled the [questions] that Melinda should know. [But] she did better than that. She answered a lot of the [questions] that [the team] didn't think she should know. She was picking up information in class.

The science teacher [also was] modifying things for her--restating things in simpler language. [Melinda] was picking up some incidental learning [of content, while] learning a lot about how to act in a class and how to listen and take notes. That's where her handwriting really improved a great deal. The teacher used to give Melinda her outline and just highlight the parts that she wanted Melinda to write.

Melinda used to copy off the board, but use the outline as a guide [Figure 3]. Her handwriting improved to the point that later on in her school career [the team was] using her notes to give to other kids in the class. ...[Her handwriting] still was a barrier when composing in written language, but when she didn't have to concentrate on the words that she was writing, it improved nicely.

Melinda also had adaptations and strategies to participate in class reading and writing activities. When her high school sophomore English class studied Shakespearean plays, Melinda participated by (a) independently reading study versions of the plays that had summaries of the stories; (b) practicing specific sections of the play to facilitate her reading aloud during class; (c) watching videotapes of the plays; and (d) using the library to prepare six posters (though assigned two) about the author and his plays, which she then presented orally to her class. "Melinda had a nice experience with Shakespeare....They gave her everything in visual context, and visual ways of responding. They modified everything to her level." During her sophomore year of college, Melinda continued to be interested in Shakespeare and life at that time, keeping a scrapbook and reading library books at her reading level on Henry VIII and Queen Elizabeth I.

While receiving services in inclusive settings, Melinda developed a number of strategies to facilitate her writing. She learned many functional vocabulary words related to class work and her life and how to use a word bank (i.e., a list of words relevant to a specific topic) to retrieve words for a first draft of independently written material. With this draft, Melinda then worked with a classmate or adult who facilitated the development of her thoughts into complete sentences and who wrote the sentences so Melinda could copy them either on a computer or by hand. The combination of these strategies allowed Melinda to develop and read written material that accurately reflected her thoughts. For instance, using these strategies during her senior year of high school Melinda wrote and read her testimony for the Education Committee of the State Assembly (Figure 4).

Melinda used these same strategies her freshman year of college when she wrote an article for her college newspaper. At that time, some of the other residents of her dormitory were criticizing the resident assistant whose job was to provide support for Melinda during unscheduled hours. Criticisms surrounded the assistant for refusing to complete tasks for or with Melinda (i.e., opening the combination lock on her mailbox; eating every meal with her). Upon hearing some of these criticisms, Melinda decided they were unjustified and indicated the students' lack of understanding about her disability, her needs, and inclusion. With her resident assistant, she used the facilitated writing process and submitted an article that was published in the college newspaper.

While reading this article during a national conference presentation, Melinda was videotaped. A miscue analysis of her reading performance indicated that she had only 13 significant miscues for a 97% accuracy rate at an independent level and above a sixth grade level of accuracy. It must be remembered, however, that this was content written by Melinda with assistance, therefore the content was meaningful and familiar to her. During her second year auditing her college courses, however, Melinda's education team determined that she was reading sections of regular college texts with complete comprehension and estimated the material was written at the seventh grade level.

When considering Melinda's overall progress in relation to written forms of literacy, her mother stated:

What's been very remarkable is her willingness to take a risk in terms of reading, saying things, and trying out language [after being included for about 3 years]. For instance, I got new glasses and I couldn't see [with them] very well. I just said to her, "I can't read this. What is this [garment] made of? I see this is 60%--this is 60% what?" She didn't say anything and I said, "Well, does it begin with a P or C?" She said "P." And I said "Well, can you make it out for me?" She said real soft, "Polyester." I said, "YEAH!! Say it again like you know it." She said, "Poly..., polyester." I said, "Right. Can you make out the other one?" She said, "Cotton." [Prior to being included] never, never would she have risked making a mistake--looking or sounding dumb.

Behavior. When referring to Melinda's 1 month of inclusion in the seventh grade, her father indicated that even with minimal special education support:

It was a thousand times better for her than being in a segregated classroom. She was with normal people! You could tell the difference in Melinda right away. Her attitude was different. She was happier; friendlier. She was doing better. She was even talking better right away! ...Her language ability; her reading ability; her math ability; things [on which] everybody had put a self-fulfilling prophecy. ....[That prophecy] just dropped [away]. Immediately upon being included, Melinda stopped exhibiting her newly acquired inappropriate behaviors. She attended to her teachers, attempted to complete class assignments, and completed homework. Her interactions with adults and nondisabled peers consistently were appropriate, although immature. The coping strategies she demonstrated related to academic tasks and her falling apart behaviors, however, persisted in the early inclusive settings. As the causes of these behaviors and alternate instructional strategies were identified, these behaviors also decreased.

Finally, Melinda began to accept the concept that she did not have to know everything that her peers knew, or do things in the same manner as them, in order to be accepted, belong, and be valued. With this realization, Melinda accepted the fact that she needed assistance to learn, and that receiving assistance to acquire new skills led to greater independence for her later.

## DISCUSSION

There is no doubt that during the years Melinda received special education and related services in inclusive middle school, high school, and college settings, her use of literacy developed in many ways. This fact is contradictory to the belief that the intent of inclusion is only to develop social skills. Both functional academics and general education content should be central to discussions about IEPs for students with moderate to severe disabilities in home school general education settings. For Melinda, it appears that the dramatic growth in literacy may have been due to increased exposure to meaningful literacy artifacts and activities for instructional purposes. This increased exposure, however, was accompanied by concurrent acceptance of six additional variables by her education team: (a) her inclusion with nondisabled peers in general education settings; (b) higher performance expectations; (c) decreased emphasis on norm referenced assessments through the use of routine daily activities with nondisabled classmates as assessment opportunities; (d) the use of routine daily activities with nondisabled classmates as instructional opportunities; (e) modifications that encouraged the use of skills, maximized the acquisition of new skills, minimized failure, and maximized independence; and (f) awareness that inappropriate behavior, initially interpreted as a "behavior problem," may instead have indicated a learning problem (e.g., processing delay) (Berger, 1994; Marvin, 1994; Marvin & Mirenda, 1993).

As noted in the findings, simply placing Melinda in general education situations with nondisabled peers immediately had an effect on her use of language. However, the placement with nondisabled peers was not the only modification that may account for Melinda's dramatic improvement in the use of literacy. Melinda's mother discussed the role of expectations on Melinda's overall growth over the years following her inclusion in the following manner:

We always had a certain amount of vision for her, but even I would not have predicted how far she's gone! I simply would not have predicted! [I attribute the difference in her growth] to higher expectations on the part of everybody; giving her the opportunity [to learn]. I always felt, in the course of her education, that people expected her to be retarded and then they gave her activities that they would expect retarded people to do. Then they said, "See, she's retarded."

Melinda's father also described limitations previously placed on Melinda and other learners and how those limitations appear to have effected their growth.

...you can't say, "This is all a person can do." You can't just label them [as having] a 30 or 50 IQ and say, "Because they [have this IQ they] can only read at a first grade level, or can only do THESE things." We've learned not only from Melinda, but from so many other instances that those kinds of tests and statistics really are not a good forecaster of what any child can do, if given the proper opportunities, role models, and settings.

Literature is beginning to emerge related to the effects of expectations, as well as to the effectiveness of early and consistent exposure of individuals with disabilities to meaningful literacy artifacts and activities (Coleman, Koppenhaver, & Yoder, 1991; Erickson & Koppenhaver, 1995; Erickson, Koppenhaver, & Yoder, 1994; Gormley & McDermott, 1994; Katims, 1994; Kliwer, 1995, 1998; Snow, 1983; van Kleeck, 1990). This case study suggests, however, that even late and consistent exposure to meaningful literacy artifacts and activities can be effective for students with disabilities. However, in schools that provide literacy related instruction based on developmental skill sequences for students with moderate to severe disabilities, students like Melinda frequently never are considered "ready" for formal reading instruction (Katims, 1991; Koppenhaver et al., 1991). While Melinda's education team never overtly discussed her literacy use and its potential effect on her overall learning, the modifications made to her program greatly affected every aspect of her literacy.

Melinda's placement with nondisabled peers and higher expectations for her performance were accompanied by the use of adapted materials, instructional activities, and assessment procedures--adaptations that allowed Melinda to demonstrate in daily activities with nondisabled peers the skills she already had acquired, while learning new skills. Because Melinda had experienced recurring failure during her years in self-contained special education classes, it should have been of no surprise that she resisted any task that required her to read or write. When she finally experienced success on a consistent basis through the use of adaptations that allowed her to participate independently in activities that were meaningful to her, Melinda was so motivated that she began to take risks and to request assistance needed from others. Being willing to take risks and to request assistance allowed Melinda to develop literacy skills, which led to more independent participation in life. As indicated by her father, the "most productive... modifications....allow[ed] her to be independent." It should be noted that Melinda's development of literacy skills and increased independent participation in life, however, did not lead to higher norm referenced test scores.

Voss (1993, p. 633) indicated that many literacy and literacy building behaviors observed outside the mainstream population are "unrecognized, undervalued, and untapped by mainstream schooling." Consistent with this, Melinda's mother indicated:

[by giving] instruction and assessment in routine daily activities with nondisabled peers, the education team created in Melinda a need to learn, which created in her a motivation to learn. This type of instruction and assessment is undervalued by schools because it is anecdotal and hard to measure. Tests measure levels, not outcomes or use of literacy in need provoking naturally occurring situations.

Finally, the openness of all team members to refrain from interpreting all inappropriate behaviors as behavior management problems requiring behavior management programs was critical for Melinda's literacy development. Without the team viewing her inappropriate behaviors as learning problems that resulted in inappropriate responses, it is unlikely that Melinda would have been provided the breadth and depth of opportunities that opened for her. The realization that she was experiencing an auditory processing problem allowed her education team members to problem solve and find solutions that would assist Melinda in being both more independent and more socially appropriate.

## IMPLICATIONS FOR PRACTICE AND FURTHER RESEARCH

Parents and educators concerned about the lives of learners with moderate to severe disabilities constantly need to ask: "Is the intent of educational services to facilitate a learner's acquisition of a higher

test score, or to facilitate success in life through the use of skills when and where they are needed?" If the latter belief is held, then this case study suggests four major approaches to instruction and assessment that may facilitate more effective literacy building and literacy use by students with moderate to severe disabilities. First, Light and McNaughton (1993) addressed concerns about the manner in which parents and professionals respond to impairments. Rather than limiting a learner's education experiences based on test scores, labels, or preconceived ideas about the learner's potential, this study suggests that the learner be immersed in a literacy rich environment and be provided with the support and adaptations required to maximize use of current skills and to learn new skills, while minimizing failure. Concurrently, the use of acquired and new skills within that environment should replace the use of norm referenced assessments to document a student's performance and growth.

Second, Koppenhaver and Yoder (1993) discussed the effect of contexts in which learning is expected to occur. This study suggests that literacy development can be affected positively by immersing the learner in genuine opportunities to speak, listen, read, and write in contexts that are real, of high interest, and literacy need provoking for that learner. This concept is consistent with several practices independently identified as effective for students with moderate to severe disabilities, including (a) instruction within activities that are functional for an individual student; (b) provision of instruction with nondisabled peers; (c) adapting materials and instruction; (d) collaborative teaming; (e) integrated delivery of related services; (f) nondisabled peers participating in the student's educational program; (g) individualized curriculum; and (h) blended instruction for general education and functional content within activities. In addition, the concept supports the use of processes to identify appropriate functional and general education content on which to focus a student's instruction (Giangreco, Cloninger, & Ryndak, 1998; Ryndak, 1996b). Overall, this study suggests that "best practices" for students with moderate to severe disabilities who were identified before inclusion are also effective in inclusive settings.

Third, Katims (1991) and Teale and Sulzby (1986) referred to emergent literacy as appropriate to drive instructional content, instructional practice, and assessment. This study suggests that the emphasis be placed on a learner's use of language during activities in which there is a perceived need to inform and persuade, or to be informed and persuaded, and that instruction and assessment be embedded into those activities. Consistent with Katims (1991) and Teale and Sulzby (1986), this study further suggests that those activities should drive instructional content and practices, which then drive assessment procedures. This is in contrast to a developmental approach in which assessment drives instructional content and practices.

Fourth, McCormick (1994) discussed the negative effect of recurring failure on perseverance during learning tasks. This study suggests that once a learner has experienced recurring failure, sufficient time in effective instruction within appropriate contexts must be allowed to assist the learner in overcoming any possible negative effects of that previous failure. Such learners must unlearn the idea that they cannot learn and be taught that they can learn. It would be inappropriate, therefore, to assume that if a student does not demonstrate progress within the first year or two of being included, that student never will demonstrate progress. Some students, like Melinda, had years to learn that they cannot learn; how could it be assumed that they would unlearn that belief, and learn how to learn, in a shorter amount of time?

One final point must be raised. The contrast between Melinda's lack of development and use of literacy during 10 years of special education services in self-contained settings, and her extensive development and use of literacy and other skills after being included, is particularly disconcerting. Reasons for this contrast must be explored, especially in light of the many advantages that Melinda experienced throughout her life: (a) living in a literacy rich environment with three well educated individuals who were supportive of her growth; (b) having high expectations placed on her by her parents for her development of literacy and other skills; (c) having numerous opportunities for her growth at home and in the community; (d) having parents who were very knowledgeable about special education law and practices, and consistently advocated for the best services possible; (e) traveling extensively both in the United States and in foreign countries; and (f) living in a school district that was well funded and that had easy access to new teachers with knowledge of, and skills related to, inclusion. When viewed as a whole,



it could be assumed that Melinda had everything working in her favor for maximal development and use of literacy, as well as skills in other areas. When considering that in spite of these advantages, Melinda did not develop and use literacy effectively during 10 years of special education services in self-contained settings, and did develop literacy skills after being included, several questions arise. For instance, why were traditional special education services in self-contained settings not effective for her, even with all the advantages she had to facilitate her development? What combinations of variables in inclusive settings facilitated her late development of literacy? What can be expected for other students with similar disabilities who do not have the same advantages as Melinda? Will they have equal access to inclusive settings, as well as nontraditional instruction and assessment, without well educated professional parents who advocate for them? Can they experience the same type of literacy development without a literacy rich environment and collaborative efforts between school personnel and family members? If not, and given the current high use of self-contained settings that still exists for students with disabilities, would this make inclusion and its possible benefits middle class phenomena, most available for a select few?

#### ADDED MATERIAL

Diane Lea Ryndak

University of Florida

Andrea P. Morrison

University of Arizona

Lynne Sommerstein

State University College at Buffalo

Address all correspondence and requests for reprints to Diane L. Ryndak, College of Education, Department of Special Education, G315 Norman Hall, P.O. Box 117050, University of Florida, Gainesville, FL 32611-7050. E-mail: dryndak@edu15.coe.ufl.edu

#### Table 1 Annual Goals on Last Individualized Education Program Prior to Inclusion

Improve proper behavior	Verbally express her feelings
Add appropriate comments to conversations with adults and peers	Improve understanding of her location in space and other spatial relations
Improve organization of work on her paper	Write complete sentences
Improve phonics and comprehension to the 2.5 grade level words within 15 minutes	Improve work skills by alphabetizing 10 words within 15 minutes
Improve reading of leisure materials (e.g., newspapers, magazines) during free time in the self-contained classroom	Solve three and four digit addition and subtraction problems from a workbook or teacher made worksheets
Read and write dollar amounts	Demonstrate knowledge of body parts

Figure 1. Work sample of copying sentences in cursive writing prior to inclusion. (From Curriculum content for students with moderate or severe disabilities in inclusive settings (pp. 335-355), by D. Ryndak, 1996a, Needham Heights, MA: Allyn & Bacon. Reprinted with permission.)

Figure 2. Use of writing on math work sample prior to inclusion. (From curriculum content for students with moderate or severe disabilities in inclusive settings (pp. 335-355), by D. Ryndak, 1996a, Needham Heights, MA: Allyn & Bacon. Reprinted with permission.)

Figure 3. Writing work sample of class notes after inclusion. (From Curriculum content for students with moderate or severe disabilities in inclusive settings (pp. 335-355), by D. Ryndak, 1996a, Needham Heights, MA: Allyn & Bacon. Reprinted with permission.)

Figure 4. Testimony on least restrictive environment for the Education Committee of the State Assembly; written with assisted writing; read independently in public. (From Curriculum content for students with moderate or severe disabilities in inclusive settings (pp. 335-355), by D. Ryndak, 1996a, Needham Heights, MA: Allyn & Bacon. Reprinted with permission.)

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#### TABLE 2 SAMPLE OF ANNUAL GOALS ON INDIVIDUALIZED EDUCATION PROGRAMS AFTER INCLUSION

Display age appropriate behaviors by interacting with nondisabled peers in general education classes and during after school activities

Improve use of articulation skills throughout the day so as to be understood by adults and peers, including initiating questions in general education classes

Improve verbal communication in social, vocation, academic, and stressful situations

Initiate verbal requests for assistance from adults and peers when presented with a stressful situation in which support is needed

Complete activities at school, home, and on the job independently by using systematic approaches

Revise work or actions when corrected by a peer or adult

Plan out-of-school social activities with friends, including identifying convenient times, agreeing on activity, and identifying transportation and financial needs

Move about the community through independent use of public transportation and use of coping mechanisms where balance is uncertain

Apply and improve reading skills to adapted general education curriculum and to content that is relevant to her daily life at home, school, and in the community (e.g., student newspaper, yearbook, community activity schedule)

Improve practical reading skills by following written directions for high interest tasks at school and at home

Improve narrative writing skills on the computer by decreasing use of extraneous words

Use writing skills for personal messages, letters, lists of tasks, so readers can comprehend

Improve use of math skills during daily activities (e.g., purchasing desired items, calculating work hours, recording monthly income and expenditures)